



Also inside this issue of *lifelines*:



Dr. Troyer develops blood test. See page 2



Jenna Dockweiler goes to BioCamp. See page 2



Brooks Butler wins scholarship. See page 3



A closer look at Amy Brusk. See page 4

New research may apply to humans

Professor works to allieve pain in both dogs and humans

A College of Veterinary Medicine professor's research improving post-surgery pain treatment and osteoarthritis therapy in dogs may help develop better ways to treat humans for various medical conditions.

From the use of hot and cold packs to new forms of narcotics, Dr. James Roush, professor of clinical sciences, is studying ways to lessen pain after surgery and improve care for small animals, particularly dogs. Both dogs and humans experience these ailments in similar way, and Dr. Roush's research may improve how doctors and physicians understand human health.

One project Dr. Roush is currently working with focuses on ways that hot packing and cold packing affect tissue temperature in beagles and beagle-sized dogs after surgery. This research, in conjunction with former resident Dr. Ralph Millard, studies how deep in the tissue the packs affect temperature and how long the packs must be applied so that the tissue reaches a desired temperature.

"We found that you don't really need to cold pack anything longer than 10 minutes because there is not a great change in temperature after that," Dr. Roush said.

Additionally, when tissue is cold packed, it will stay cold for a while after the ice pack is removed. In contrast, when tissue is hot packed the tissue temperature will return to normal much more quickly when the pack is removed. Because the practice of using these temperature packs is similar in both dogs and humans, there is a strong possibility similar



A research project in pain treatment for canines, led by Dr. James Roush, may also help benefit humans.

results may apply to humans as well.

For another project, Dr. Roush and Dr. Matt Sherwood, resident, are using a mat system to study lameness and osteoarthritis in dogs. When dogs step on the mat, it measures the pressure in their step. Not only can this tool help improve osteoarthritis treatment, but it will also help measure the recovery of clinical patients and how they react to different narcotics and surgical procedures.

Dr. Roush also is working on yet another project with Dr. Marian Benitez, Veterinary Health Center resident, Dr. Rose McMurphy, professor of clinical sciences and Dr. Butch KuKanich, associate professor of anatomy and physiology, on an analgesic pharmacology study.

The researchers are studying the effectiveness of a painkiller used to treat both dogs and humans, as well as researching potential alternatives to the drug.

Portions of Dr. Roush's research will be appearing in two upcoming publications in the *Journal of Veterinary Research*.

New blood test able to detect some cancers in humans



Dr. Deryl Troyer stores a culture while working in his lab.

Dr. Stefan Bossmann, professor of chemistry, and Dr. Deryl Troyer, professor of anatomy and physiology, have developed a simple blood test that can accurately detect the beginning stages of cancer.

In less than an hour, the test can detect breast cancer and non-small cell lung cancer—the most common type of lung cancer—before symptoms like coughing and weight loss start. The researchers anticipate testing for the early stages of pancreatic cancer shortly.

“We see this as the first step into a new arena of investigation that could eventually lead to improved early detection of human cancers,” Dr. Troyer said. “Right now the people who could benefit the most are those classified as at-risk for cancer. The idea is these at-risk groups could go to their physician’s office quarterly or once a year, take an easy-to-

do, noninvasive test, and be told early on whether cancer has possibly developed.”

The researchers say the test would be repeated a short time later. If cancer is confirmed, diagnostic imaging could begin that would otherwise not be routinely pursued.

The test developed by Drs. Bossmann and Troyer works by detecting increased enzyme activity in the body. Iron nanoparticles coated with amino acids and a dye are introduced to small amounts of blood or urine from a patient. The amino acids and dye interact, producing a specific enzyme pattern, or signature, that can be identified by doctors.

“These enzyme patterns

can also help distinguish between cancer and an infection or other diseases that commonly occur in the human body,” Dr. Bossmann said.

Once the test is administered, comprehensive results are produced in roughly 60 minutes.

Drs. Bossmann and Troyer have designed a second testing method that is anticipated to produce the same results in about five minutes. The team recently received \$305,000 in funding for this project from the National Science Foundation’s Division of Chemical, Bioengineering, Environmental and Transport Systems.

Jenna Dockweiler attends BioCamp in Switzerland

Novartis Animal Health recently sponsored third year student Jenna Dockweiler as the company candidate for the Novartis International Biotechnology Leadership Camp (BioCamp) that took place at the Novartis International Headquarters in Basel, Switzerland, during the last week of August. She was one of 60 students from 21 different countries who attended the BioCamp, a three-day biotechnology seminar for top graduate and postgraduate students who are interested in careers in biotechnology.

Jenna and the other students who took part in BioCamp had a chance to interact with key Novartis scientists who lead the company’s unique approach to drug discovery; learn about breakthrough new medicines to address patients’ unmet medical needs; and explore trends and challenges in the biotechnology sector.

“Overall, it was an amazing experience,” Jenna said of BioCamp. “I

was really struck by how happy all the employees here seem to be. It is evident from the way they speak that they are very passionate about their work and Novartis.”

Jenna was selected based on her academic record, professional experience and extra-curricular activities.



Jenna describes the BioCamp as a culturally eye-opening experience.

Dr. Jason Drake, Senior Manager of Professional Services at Novartis Animal Health said BioCamp is an important annual event for future industry leaders.

“The team at Novartis Animal Health is thrilled that we were able to provide another veterinary student with the opportunity to interact with our colleagues in Novartis R&D at BioCamp,” he said. “We continue to demonstrate benefits of collaboration between Novartis business units and also promote the benefits of academia and industry working together.”

K-State participates in the annual State Fair

The College of Veterinary Medicine managed a tent during K-State Day at the State Fair in Hutchinson. Passers-by were encouraged to sign a "Pet Friendly" banner with the names of their pets. Staff and students from the college answered general questions from the public.



Above: First-year student Jen McGrady answers questions regarding the veterinary medicine program.

Right: Jen McGrady and Dr. Dan Thomson prepare for questions.

Below: A young visitor to the tent signs the name of her pet.



Student wins scholarship award



Fourth-year student Brooks Butler is one of 15 veterinary students from across the United States who were recognized as 2012 recipients of the AABP (Association of Bovine Practitioners) Foundation-Pfizer Animal Health Veterinary Student

Scholarship. The fund aims to provide financial support to veterinary students pursuing careers in large-animal veterinary medicine.

Dr. M. Gatz Riddell Jr., executive vice president of the association and a 1977 Doctor of Veterinary Medicine graduate of Kansas State University explained that the AABP Foundation-Pfizer Animal Health Veterinary Student Scholarship Fund has awarded \$385,000 in scholarships to 77 veterinary students in the past four years.

"In addition to financial support, we also make sure students have access to educational resources and are given the opportunity to network with other veterinarians. We feel these can be key to a successful career in veterinary medicine," said Doug Braun, veterinary segment manager, Pfizer Animal Health Strategic Initiatives.

CVM welcomes its 2012 early admissions class

Twenty-five undergraduate students have been formally accepted into the 2012 class of the Early Admission Scholars program in the College of Veterinary Medicine.

"Qualifying for this program is valuable because there are hundreds of applicants each year for a limited number of positions. This program allows these students to know early in their undergraduate programs that they have a place in the veterinary college," said Dr. Ronnie Elmore, associate dean for admissions and diversity programs.



Back row: Jared Bourek, Elsie Suhr, William Mischnick, Mallory Fleenor, Samantha Bolen, Bailey Spencer, Katelyn Comstock, Amanda Dainton, Morgan Schmidl, Stephen Mercer

Middle row: Sara Teague, Jason Banning, Laure Erbe, Tess Rychener, Taylor Papstein-Novick, Emily Mast, Carlee Wollard

Front row: Savannah Stewart, Megan Ewell, Elizabeth Wilk, Jordan Green, Abigail Lechtenberg, Rachel Eisen-McGinn, Lauren Barlow, Callie Weibert

under the microscope



Amy Brusk

Grant Specialist, Clinical Sciences



Hometown: Bucyrus, Kan.

Family Information: My husband Richard and 2-year-old son Joshua.

Pets: Three dogs – Chase (9-year-old German shepherd), Mogly (8-year-old Siberian husky), and Nugget (5-year-old Jack Russell terrier).

What is one of your favorite quotes? “He is your friend, your partner, your defender, your dog. You are his life, his love, his leader. He will be yours faithful and true to the last beat of his heart. You owe it to him to be worthy of such devotion.” – Anonymous

What was your favorite Halloween costume as a child? When I was a kid I was Tinkerbell one year. My Mom made it herself, complete with wings, a green outfit with bells, and a little drawstring bag of fairy dust. It was one of my favorites because of the time and effort my Mom put into it. She started a tradition of sewing all of our costumes and I have carried on that tradition. For the past two Halloweens I have sewed my son's costumes.

CVM NEWS TICKER

Dr. Frank Blecha, professor and associate dean for research in the College of Veterinary Medicine, and **Dr. H. Morgan Scott**, professor of epidemiology, spoke at the International Symposium on Alternatives to Antibiotics: Challenges and Solutions in Animal Production.

Dr. Tim Musch was recently named as a recipient of the 2013 American College of Sports Medicine Citation Award.

Dr. Bob Rowland, Professor in the Department of Diagnostic Medicine/Pathobiology has been selected to receive the Distinguished Graduate Faculty award at Kansas State University for 2012-13.

Congratulations to the veterinary staff and students who ran as a team in the Apple to Capital Relay.

New research offers hope in controlling a deadly pathogen: E. coli O157.H7. See this month's video featuring Dr. T.G. Nagaraja and Dr. David Renter in the web version of Lifelines: www.vet.k-state.edu/depts/development/lifelines/1210.htm

VHC recognizes years of service



The Veterinary Health Center recognizes some of its employees for their years of service. From left to right: Robert Lundblade (10 years), Shirley Arck, hospital administrator, Beth Galligan (10 years), Ruth Berggren (20 years) and Dean Ralph Richardson.

UPCOMING EVENTS

Oct. 27: Cat Town - K-State vs. Texas Tech, TBA
Nov. 3: Cat Town - K-State vs. Oklahoma State, TBA

Continuing Education Events

Oct. 13: SCAAEP Fall Conference, Guest Speaker - Brad Jackman, DVM, MS, ACVS, Pioneer Equine Hospital
Nov. 10: KVMA Fall Conference
Nov. 17: Inaugural Kansas Horse Council Equine Clinic: Horse Care 101
Nov. 29-30: International PRRS Symposium & National Swine Improvement Federation Conference
Kansas City, MO

Lifelines is published each month by the Development and Alumni Affairs Office at the College of Veterinary Medicine. The editors are Joe Montgomery, jmontgom@vet.k-state.edu, and Rebecca Martineau, beccamm@vet.k-state.edu. Read online at www.vet.k-state.edu/depts/development/lifelines/1210.htm

find us on facebook:
www.facebook.com/ksucvm

